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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

APLE.P0037

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on 3/17/08

Signature Ali Makoui

Typed or printed name Ali Makoui

Application Number

10/716,265

Filed

11/17/2003

First Named Inventor

Thomas Pun

Art Unit

2621

Examiner

David N. Werner

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☐ attorney or agent of record.
Registration number _____

☒ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 45,536

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03/17/2008

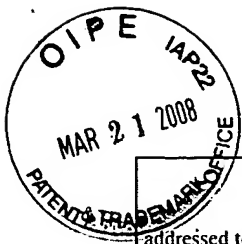
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

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Ali Makoui
Ali Makoui

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application for:

Thomas Pun, et al.

Serial No.: 10/716,265

Filing Date: 11/17/2003

For: METHOD FOR IMPLEMENTING AN
IMPROVED QUANTIZER IN A MULTIMEDIA
COMPRESSION AND ENCODING SYSTEM

Examiner: David N Werner

Group Art Unit: 2621

REMARKS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
10 Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated 10/12/07 and the Advisory Action dated 1/16/2007, please consider the followings remarks.

15 I. Claims 1-4, 16-19, 32, and 35

The Advisory Action rejected claims 1-4 and 32 under §102(b) as being anticipated by Chiang. Claims 2-4 and 32 are directly or indirectly dependent on claim 1. The Advisory Action also rejected claims 16-19 and 35 under §102 (b) as being anticipated by Chiang. Since the Advisory Action uses the same grounds of rejection for claims 1 and 16, Appellants' arguments for claim 1 are also applicable to
20 claim 16.

Applicants respectfully submit that Chiang does not anticipate claim 1 for at least the following reasons. Chiang does not disclose, teach, or even suggest a method of quantizing that limits an amount of change in the buffer occupancy accumulator based upon frame properties. The Advisory Action refers to a buffer fullness measure formula in Column 13, lines 43-59 of Chiang and asserts that the difference
25 between a B Term and a T term in the formula as a buffer occupancy accumulator. The advisory Action then concludes that since buffer fullness measure is calculated from the asserted buffer occupancy accumulator and since the buffer fullness measure ensures that the encoder will not overflow or underflow the buffer, it is inherent that this value, and consequently, the accumulator value are limited.

Appellants respectfully disagree with the Advisory Action's conclusion. Even if the Advisory
30 action's assertion that the difference between the B Term and the Term is a buffer occupancy accumulator

is correct, the inherency conclusion is flawed. Specifically, as disclosed in Appellants' Specification, the overflow and underflow of the buffer is ensured in MPEG-2 without limiting the buffer occupancy accumulator. *See*, e.g., page 11, lines 5-25 and page 17, lines 14-22 of the Specification. Therefore, requiring the buffer occupancy accumulator itself to be limited is an improvement which is disclosed by the Appellants' Specification and not inherently required for ensuring that the buffer does not overflow or underflows.

Accordingly, in order to make claim 1 unpatentable, the Advisory Action has to identify where in the cited reference limiting the buffer occupancy accumulator is disclosed. In other words, limiting the buffer occupancy accumulator itself is different than using the buffer occupancy accumulator to prevent a buffer overflow or underflow and the Advisory Action has not satisfied the Examiner's *prima facie* obligation of showing how a cited reference discloses every limitation of claim 1. Appellants respectfully submit that Chiang does not disclose, teach, or suggest limiting a buffer occupancy accumulator based upon frame properties. If the assertions made in the Office Action are valid that R_i is a buffer fullness measure, then R_i is disclosed to be proportional to some number of bits but not limited based upon frame properties.

In view of the foregoing remarks, Appellants respectfully submit that Chiang does not render claims 1 and 16 unpatentable. As claims 2-4 and 32 are dependent on claim 1 and claims 17-19 and 35 are dependent on claim 16, Appellants respectfully submit that claims 2-4, 17-19, 32, and 35 are patentable over Chiang for at least the reasons that were discussed above for claim 1 and 16. In view of the foregoing, Appellants respectfully request reconsideration and withdrawal of the rejections of claims 1-4, 16-19, 32, and 35.

II. Claims 5-13 and 33

In the Office Action, the Examiner rejected claim 5 under §102(b) as being anticipated by Saunders. The also Examiner rejected claims 5-10, 12-13, and 33 under §103(a) as being unpatentable over Chiang in view of Saunders. The Examiner also rejected claim 11 under §103(a) as being unpatentable over Chiang in view of Saunders and in further view of Noh. Claims 6-13 and 33 are directly or indirectly dependent on claim 5.

A. Rejection of claim 5 under §102(b)

Applicants respectfully submit that Saunders does not anticipate claim 5 for at least the following reasons. Saunders does not disclose, teach, or even suggest a method of quantizing digital video information that (1) determines a base quantizer value, (2) determines a quantizer adjustment based upon frame properties, and (3) computes a quantizer value as a sum of the base quantizer value and the quantizer adjustment.

The Office Action cites column 5, lines 16-35 of Saunders for determining a base quantizer value. The Office Action then cites column 5, lines 45-50 and several other lines of Saunders for determining a quantizer adjustment based on frame properties. Finally, the Office Action cites column 5, lines 56-59 of Saunders for encoding digital video information based on a quantizer value computed as a sum of the base quantizer value and the quantizer adjustment. *See*, page 13 of the Office Action. Also, the Advisory Action cites the binary search unit 190 disclosed in Saunders and states that the modified quantization level determined from binary search unit is the selected quantization level. *See*, page 5 of the Advisory Action.

Applicants respectfully disagree with the Examiner's characterization of Saunders for at least the following reasons. *First*, the Advisory Action implies that the binary search unit of Sanders performs a quantizer adjustment operation. The Advisory Action, however, fails to identify where Saunders discloses that the binary search unit performs its search based on frame properties as recited in claim 5. *Second*, Saunders discloses that DCT coefficients are quantized according to the selected quantization level which the Office Action cites as the base quantization level and not according to the sum of a base quantization level and a quantizer adjustment based on frame properties.

In view of the foregoing remarks, Applicants respectfully submit that Saunders does not render claim 5 unpatentable. As claims 6-13 and 33 dependent on claim 5, Applicants respectfully submit that claims 6-13 and 33 are patentable over Saunders for at least the reasons that were discussed above for claim 5.

B. Rejection of claim 5 under §103(a)

Applicants respectfully submit that Saunders, Chiang, or their combination do not disclose, teach, or even suggest a method of quantizing digital video information that (1) determines a base quantizer value, (2) determines a quantizer adjustment based upon frame properties, and (3) computes a quantizer value as a sum of the base quantizer value and the quantizer adjustment.

In the Office Action, the Examiner agrees that Chiang does disclose encoding digital video using a quantizer value calculated as the sum of a base quantizer value and quantizer adjustment. *See*, page 14 of the Office Action. Applicants respectfully submit that for the reasons discussed in Section II.A above, Saunders also does not disclose encoding digital video using a quantizer value calculated as the sum of a base quantizer value and quantizer adjustment.

In view of the foregoing remarks, Applicants respectfully submit that Chiang, Saunders, or their combination does not render claim 5 unpatentable. As claims 6-13 and 33 are dependent on claim 5, Applicants respectfully submit that claims 6-13 and 33 are patentable over Saunders and Chiang for at least the reasons that were discussed above for claim 5. Accordingly, Applications respectfully request reconsideration and withdrawal and §102(b) and §103(a) rejections of claims 5-13 and 33.

III. Claims 14-15 and 34

The Advisory Action rejected claims 14-15 and 34 under §102 (b) as being anticipated by Chiang. The Advisory Action also rejected claims 29-31 under §102 (b) as being anticipated by Chiang. Since the Advisory Action uses the same grounds of rejection for claims 14 and 29, Appellants' arguments for claim 14 are also applicable to claim 29.

Applicants respectfully submit that Chiang does not anticipate claim 14 for at least the following reasons. Chiang does not disclose, teach, or even suggest a method of determining a quantizer that determines a delta value that includes a difference between a number of bits actually used and a number of bits that should have been used where the number of bits that should have been used is dependent on a frame type. The Advisory Action asserts that the B Term the formula disclosed in Column 13, lines 43-59 of Chiang is the number of bits actually used. The Advisory Action also states that the analysis of claim 14 in the Advisory Action is in harmony with the analysis of claim 1.

Appellants respectfully disagree with the Advisory Action's conclusion. Even if the Advisory action's assertion that the difference between the B Term and the Term is a buffer occupancy accumulator is correct, the inherency conclusion is flawed. Specifically, as disclosed in Appellants' Specification, the overflow and underflow of the buffer is ensured in MPEG-2 without limiting the buffer occupancy accumulator. *See, e.g.,* page 11, lines 5-25 and page 17, lines 14-22 of the Specification. Therefore, requiring the buffer occupancy accumulator itself to be limited is an improvement which is disclosed by the Appellants' Specification and not inherently required for ensuring that the buffer does not overflow or underflows.

In view of the foregoing remarks, Applicants respectfully submit that Chiang does not render claim 14 unpatentable. As claims 15 and 34 dependent on claim 14, Applicants respectfully submit that claims 15 and 34 are patentable over Chiang for at least the reasons that were discussed above for claim 14. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 14-15 and 34.

IV. Claims 20-28 and 36

In the Office Action, the Examiner rejected claims 20-25, 27-28, and 36 under §103 (a) as being unpatentable over Chiang in view of Saunders. The Examiner also rejected claim 26 under §103(a) as being unpatentable over Chiang in view of Saunders and in further view of Noh. Claims 21-28 and 36 are directly or indirectly dependent on claim 20.

In the Office Action, the Examiner has stated that claim 20 is a software embodiment of the invention. *See, page 12 of the Office Action.* The Examiner also states that claims 5 and 20 are directed to encoding digital video using a quantizer value calculated as the sum of a base quantizer value and quantizer adjustment. Therefore, Applicants assume that the Examiner has rejected claim 20 using the

same grounds of rejection as claim 5. Accordingly, Applicants respectfully submit that claim 20 is patentable over Saunders, Chiang, and their combination for the same reasons as claim 5. Specifically, Applicants respectfully submit that Saunders, Chiang, or their combination do not disclose, teach, or even suggest a computer program for quantizing digital video information that (1) determines a base quantizer value, (2) determines a quantizer adjustment based upon frame properties, and (3) computes a quantizer value as a sum of the base quantizer value and the quantizer adjustment.

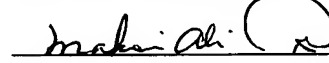
In view of the foregoing remarks, Applicants respectfully submit that the cited references do not render claim 20 unpatentable. As claims 21-28 and 36 are dependent on claim 20, Applicants respectfully submit that claims 21-28 and 36 are patentable over Chiang for at least the reasons that were discussed above for claim 20. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 20-28 and 36.

CONCLUSION

In view of the foregoing, it is submitted that all pending claims, namely claims 1-36 are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

Respectfully submitted,

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Dated: March 17, 2008

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